



# AB 118 Investment Plan Staff Workshop – Biofuels

Monday, September 14, 2009

 [goBlueSun.com](http://goBlueSun.com)





“California’s biofuel markets are not functional in meeting State policy goals for the in-state production and sales of low carbon intensity biofuels”



California requires a biodiesel infrastructure that provides:

- Quality Product
- Service & Support
- Enabling Technology

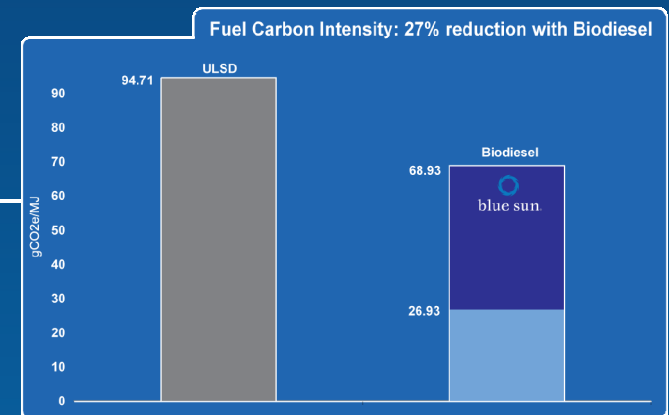


- Biodiesel
- Blue Sun
- Upstream
- Midstream
- Downstream
- Other issues



## ■ Biodiesel...

- Can be used in existing infrastructure and engines without modification
- Is available in large volumes now
- Has a lower carbon intensity
  - 68.93 gCO<sub>2</sub>e/MJ preliminary for biodiesel vs. 94.71 for ULSD
- Reduces other harmful emissions such as CO, NO<sub>x</sub>\*, SO<sub>2</sub>, particulate matter (DPM), and hydrocarbons
- Meets CEC Program Objectives
  1. GHG reduction
  2. Petroleum reduction
  3. Alternative fuel use
  4. In-state biofuels use
  5. In-state biofuels production



BLUE SUN FUSION EMISSION BENEFITS Compared to conventional diesel	
	Blue Sun Fusion
Carbon Monoxide	-24%
Hydrocarbons	-29%
Particulates	-18%
Nitrogen Oxides	-4%



- Blue Sun additionally...
  - Selects and processes feedstock oils to assure the Blue Sun B100 specification is met
  - Includes DTX™ additive with biodiesel to reduce emissions, increase performance and maintain fuel quality
  - Ratio blends DTX, B100 and ULSD to create an accurate blend, assuring fuel quality
  - Trains and supports downstream fuel distributors and end users to guarantee the quality of the fuel



- Production
  - Out of state B100 will be required while in-state capacity is being developed



## ■ Terminals

- More than 50 large petroleum product terminals in California
- Each requires a retrofit to enable biodiesel blending
  - Storage tanks, rack, electrical etc.
  - Blue Sun utilizes ratio blending to meet highest-quality specs and end user requirements for performance and emissions
- Cost ~\$3M per terminal, \$150M total

**50**

**Terminals**  
(retail bound)

**\$3M**

**Per Retrofit**

**\$150M**

**Total**





- Distribution
  - End-users require a quality fuel able to meet their needs
  - California must have the infrastructure to provide fuel to meet emissions requirements and end user performance needs
  - Fuel distributors must maintain the delivery system including tank cleaning to ensure product quality
  - This requires that fuel marketers manage and train distributors
- Retail
  - Nearly 10,000 retail sites in California
    - ~30-40% of sites carry diesel
  - \$3,000 per site for customer point-of-purchase, informational materials, etc.
  - Up to \$40,000 per site for installation of double-walled underground storage tank (UST)







## Other issues

- VDECs
  - Verified Diesel Emissions Control Strategy
  - Test process very expensive
  - CEC can:
    - Provide assistance with appropriate state boards to approve biodiesel as a VDEC
- Continued support of biodiesel blend testing
  - In engines, in storage tanks, etc.





Steve Bond  
**Blue Sun Energy**  
303-865-7700  
[stevebond@gobluesun.com](mailto:stevebond@gobluesun.com)

